Begin #646

reshoot.

VAYSER, A.

News from economic councils. Stroitel' no.9:31 S '59.   (MIRA 13:3)
(Building machinery)

VAYSER, I. V.

"An Experimental and Theoretical Investigation of the Pneumatic Regulator 04-DP." Cand Tech Sci, Inst of Automatics and Tele-mechanics, Acad Sci USSR, 16 Dec 54. (VM,6 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

USSR/Automatics and telemechanics-pneumatic regulator   FD-2757

Card 1/2   Pub. 10 - 2/11

Author   :   Abdullayev, A. A.; Vayser, I. V.; Nadzhafov, E. M. (Moscow)

Title   :   Equations of the pneumatic regulator O4

Periodical :   Avtom. i telem., 16, Sep-Oct 1955, 431-453

Abstract   :   The authors derive the equations to pneumatic regulators of the
                type O4 (factory "Tizpribor"). Inspite of the fact that these
                regulators are issued serially (tens of thousands of them in the
                course of several years) and have been utilized in various branches
                of the national economy, the designing and computations of systems
                equipped with regulators of this kind have been made difficult,
                the authors note, by the fact that up til now equations have not
                been derived that describe the processes in the regulator and
                numerical values of the parameters entering these equations have
                not been determined. They conclude that the derived equations of
                type O4 regulator and numerical values of their coefficients cor-
                responding to various static regimes permit one knowing the remain-
                ing elements of the regulation system (object, final-control mecha-
                nism, sensitive element) to write down in numerical form the equa-
                tions of motion according to final formulas and graphs immediately.

FD-2757

Card 2/2

One reference: V. L. Lossiyevskiy, Osnovy avtomaticheskogo regulirovaniya tekhnologicheskikh protsessov [Principles of the automatic regulation of technological processes], Defense Press, 1950.

Institution   : -

Submitted   : July 14, 1954

USSR/Automatics and telemechanics-stability concept   FD-2762

Card 1/3   Pub. 10 - 7/11

Author   : Vayser, I. V. (Moscow)

Title   : Remarks on the utilization of the concept of "degree of stability"
                for the evaluation of regulation process

Periodical   : Avtom. i telem., 16, Sep-Oct 1955, 481-482

Abstract   : In many industrial regulators of universal designs there exists
                the possibility of varying the isodrome time constant T_i all the
                way up to complete isodrome disconnection ($T_i = oo$) so that it is
                possible by a smooth turning of the tuning organ to make a gradual
                transition from a regulator with rigid feedback to an isodrome
                regulator (e.g. regulator 04 of the factory "Tizpribor"). If the
                technical conditions on the regulation process admit a static error
                and if therefore decrease (all the way to zero) of this error is
                unessential from the viewpoint of engineering requirements, then
                evaluation of the process in accordance with the degree of stabil-
                ity can lead to erroneous conclusions. This is connected with the
                fact that the degree of stability indirectly determines the full
                time of the process to occur, but from the viewpoint of engineer-
                ing requirements in the above indicated cases only essential is
                course of the process in regulation time tau and the further course
                of the process is completely unessential, which is connected only
                with the decrease of already acceptable static error. The author

FD-2762

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considers a regulation system consisting of a one-contour circuit
part of which is shunted by a negative isodrome feedback (Figure
1 in the original). He writes the characteristic equation of this
system, in which he notes that in a transition from isodrome to
rigid feedback ($T_1=oo$) the second term is converted to zero and
the equation possesses one zero root. The author draws (Figure 2)
the planes of roots and the corresponding transient processes
for systems with rigid feedback (case a) and with isodrome feed-
back for T_1 sufficiently large (case b). He assumes that in the
case of rigid feedback the transient process satisfies the engi-
neering requirements and is characterized by the degree of stabil-
ity delta δ_1, and that under such conditions as little as desired
the isodrome is connected. Here the transient process in the time
interval tau varies as little as desired, and the order of the
characteristic equation is increased by unity and one real root
appears as close to zero as desired. From what has been said it
follows that two processes occurring practically identically in
the interval of regulation time tau and satisfying in equal mea-
sure the engineering requirements are characterized in the first
case by a certain finite quantity delta δ_1 and in the second case
by a quantity delta δ_2, which is considerably smaller than o_1 and
close to zero. Consequently in the evaluation of the processes
according to the degree of stability in the above indicated cases
of connection isodrome feedback it is necessary to take the

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distance from the imaginary axis not up to closest root but up to
the second in magnitude from the left, namely as the degree of
stability. One reference: Ya. Z. Tsypkin, P. V. Bromberg,
"Degree of stability of linear systems," IAN SSSR,OTN, No 12, 1945.

Institution : -

Submitted : Mar 3, 1955

S/182/63/000/002/003/007
A004/A126

AUTHORS: Vaysburd, R. A., Tarnovskiy, I. Ya., Teterin, O. P.

TITLE: On the use of high-speed computers in developing die-forging technology

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 2, 1963, 10 - 13

TEXT: The authors are of the opinion that for solving the problems connected with the design particulars of a given component, e. g. dimensions, material, surface finish etc., high-speed computers can be used. Besides increasing the productivity, they would eliminate any subjective solution of technological problems. Since the most simple and widespread group of forgings are axially symmetric ones, i.e., forgings of the body-of-revolution type, this type of forgings would be the first whose technology could be developed by means of high-speed computers. The authors give a detailed description of a universal program which is being developed at present by a team of scientists of the Section "Metal Working" of the Ural'skiy politekhnicheskiy institut imeni S. M. Kirova (Ural Polytechnic Institute im. S. M. Kirov), and the Laboratory of Forg-

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S/182/63/000/002/003/007
A004/A126

On the use of high-speed computers in...

ings of NIPIGORMASh in cooperation with technologists of Uralmashzavod. They enumerate the data to be programmed, the technological details to be determined, present formulae for determining the subprograms of calculating the forging volume, fixing the overlap and determining the forging draft. The results of the investigations carried out prove the practicability of using successfully high-speed electronic computers for working out the technological processes of die forging. There are 5 figures.

Card 2/2

VAYSBURD, R.A.; TARNOVSKIY, I.Ya.; TETERIN, G.P.

Use of rapid computers for the development of forging. Kuz.-
shtam.proizv. 5 no.2:10-13 F '63.   (MIRA 16:12)
(Forging)   (Electronic computers)

SOV/163-58-2-33/46

AUTHORS: Tarnovskiy, I. Ya., Ganago, O. A., Vaysburd, R. A.

TITLE: Theoretical Investigations in Open and Closed Dies for Annular Swage Blocks (Teoreticheskoye issledovaniye shtampovki pokovok kol'tsevoy formy v otkrytykh i zakrytykh shtampakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 2, pp. 184 - 191 (USSR)

ABSTRACT: The stages of annular swage blocks in open and closed dies were investigated. In punching in open dies the filling in of the metal into the cavities of the dies as well as the flow of the metal are determined by the position of the critical surface. In stamping in closed dies an unequal flow of the metal in the open zone is observed. This influence is explained by the different direction of the internal friction forces in those zones. The rules governing the flow of the metals in various stages of the stamping of annular swage blocks were determined. A simple formula for any moment of the depression, in the second stage of stamping was found (7). By knowing the position of the

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Theoretical Investigations in Open and Closed Dies   SOV/163-58-2-33/46
for Annular Swage Blocks

critical surface for any moment of the depression in
the second stage of stamping the height of the metal
in cavity may be calculated at any single moment. Taking
into account the rules governing the flow of the metal
in the various cavities as well as the velocity factors
in stamping an efficient construction of the dies may be
reached. There are 5 figures and 2 references, 2 of which are
Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical
Institute)

SUBMITTED: October 5, 1957

Card 2/2

TARNOVSKIY, I.Ya.; GANAGO, O.A.; VAYSBURD, R.A.

Deformations and forces in closed piercing. Izv.vys.ucheb.zav.;
chern.met. no.4:99-108 '60.   (MIRA 13:4)
       (Rolling (Metalwork)) (Deformations(Mechanics))

TARNOVSKIY, I.Ya.; GANAGO, O.A.; VAYSBURD, R.A.

Investigating metal flow during upsetting with backing rings
by means of the variations method. Izv.vys.ucheb.zav.; chern.
met. no.5:55-60   '60.
                                    (MIRA 13:6)

1. Ural'skiy politekhnicheskiy institut.
         (Forging) (Deformations (Mechanics))

TARNOVSKIY, I.Ya., prof., doktor tekhn.nauk; GANAGO, O.A., dots.;
VAYSBURD, R.A., inzh.

Investigating deformations and forces in forging on ring pads.
Izv.vys.ucheb.zav.; chern.met. 2 no.8:55-67 Ag '59.
(MIRA 13:4)

1. Ural'skiy politekhnicheskiy institut. Rekomendovano
kafedroy obrabotki metallov davleniyem Ural'skogo politekhni-
cheskogo instituta.
(Deformations(Mechanics)) (Forging)

18(5)

AUTHORS: Tarnovskiy, I. Ya., Ganago, O. A., Vaysburd, R. A.

TITLE: Determination of the Forces in Swage Forging of Axially
             Symmetrical Forgings (Opredeleniye usiliy pri shtampovke
             osesimmetrichnykh pokovok)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959,
             Nr 1, pp 126 - 132 (USSR)

ABSTRACT: In the articles cited by references 1,2,3,4,and 5 the state-
             ment is found that in any kind of drop forging a certain
             amount of surplus metal is pressed from the swage into the
             fin groove, after the swage has been completely filled. This
             stage, termed "pre-forging" stage, of the forging process
             is distinguished by requiring the maximum forging force which
             must be determined in order to ascertain the required press
             or hammer weight. It has been found that in the pre-forging
             stage not the total metal volume contained in the swage is
             subjected to deformation, but only that part of the volume
             being near the swage surface. If ways and means would be
Card 1/4   found of determining the actual deformation zone in the pre-

Determination of the Forces in Swage Forging of Axially   SOV/163-52-1-24/36
Symmetrical Forgings

forging stage a determination of the force required could
be achieved with a sufficient accuracy. There is no necessity
of taking into account the complicated shape of the swage and
thus the number of variables is reduced. Only the diameter
of the swage at the inside perimeter of the fin groove, the
dimensions of this groove and the ratio between the fin thick-
ness and the dimensions of the actual deformation zone of
the forging in the pre-forging stage must be taken into account.
The accuracy in solving this problem depends upon the accuracy
with which the boundaries of the actual deformation zone of
the metal in the swage can be determined and upon the simpli-
fying restrictions placed upon some of the formulas. Various
methods of determining these boundaries are found in publica-
tions (Refs 1,2,3,4,5). In this article the shape of the
deformation zone is for the sake of simplicity assumed to be
conical. For the purpose of determining the actual plastic
deformation in the pre-forging stage the law of the minimum
of total deformation energy was applied. This allows a
theoretical deformation of the boundaries of the deformation

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Determination of the Forces in Swage Forging of Axially   3.../...(...)-...-...-.../...
Symmetrical Forgings

zone. This problem was solved by applying the Ritz variation
method. Its application to the upsetting deformation of
metals has been described in earlier articles (Refs 6,7).
Comprehensive experimental information was used in establish-
ing formula (1) which describes the curve expressing the
actual propagation of the deformation zone in drop forging.
This formula only describes the shape of the boundary between
the rigid and the plastic zone of the forging. The volume
of the deformation zone depends upon the varying parameter
a_1 which is determined by the law of the minimum of the total

deformation work and is specified by formula (15). a_1 deter-

mines the propagation of the zone of plastic deformation.
Formula (15) for

$\dfrac{p}{\sigma_s}$ is obtained, where p denotes the average specific pressure

and σ_s the yield point at given temperatures and velocities.

The experimental checking of formula (15) yielded satisfactory

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Determination of the Forces in Swage Forging of Axially   SOV/163-59-1-24/50
Symmetrical Forgings

results. Formula (13) on simplification gives formula (14)
and formula (15) on simplification gives formula (16). These
formulas can, however, only be used if the height of the
deformation zone does not exceed the depth of the swage
and if the temperature both of the forging and of the fin
are equal. There are 4 figures and 8 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural'skiy Polytechnical
Institute)

SUBMITTED: April 7, 1958

Card 4/4

S/149/62/000/005/008/008
A006/A101

AUTHORS: Pozdeyev, A. A., Tarnovskiy, I. Ya., Vaysburd, R. A., Orlov, S. N.

TITLE: On the calculation of force in pressing aluminum alloy rods

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
              no. 5, 1962, 145 - 155

TEXT: In order to develop methods of determining the force in pressure
working of metals, the authors attempted the derivation of a formula to calcu-
late the force in rod pressing, using direct methods of variation calculus.
Force and pressure are calculated with the use of a rough, approximate metal flow
diagram (Fig 1) where the container is divided into 3 sections, the velocity
field is kinematically possible, and value "a" is the depth of deformation
spread. The following simplified formula for the necessary force in pressing
rods is derived:

$$\frac{p_c}{2\tau_s} = 1.1 + 1.15 \lg\lambda + 2\sqrt{\frac{0.4\lambda + 0.6}{\sqrt{\lambda}} - 1} + 2.8\frac{L}{D}; \qquad (6)$$

λ is the extrusion. The calculated data were experimentally checked and their

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On the calculation of force in...

S/149/62/000/005/008/008
A006/A101

satisfactory agreement makes it possible to recommend the relation obtained for
the determination of the pressing force for aluminum alloys. Calculations with
the use of formula (6) are simple and do not yield indefinite results as e.g.
Gubkin's formulae. Graphs are plotted to facilitate calculation (Figure 7).
There are 2 tables and 7 figures.

ASSOCIATIONS: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute)
Kafedra obrabotki metallov davleniyem (Department of Pressure
Working of Metals)

SUBMITTED: April 9, 1962

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On the calculation of force in...

Figure 1.   Kinematic diagram of metal flow and
            shear volumes in pressing rods from
            a round container
Legend: r_n is the rod radius; R is the con-
tainer radius; L is the length of the pressed
ingot; l_m is the length of the operational
zone of the die; a is the depth of deforma-
tion seat spread (variable parameter)
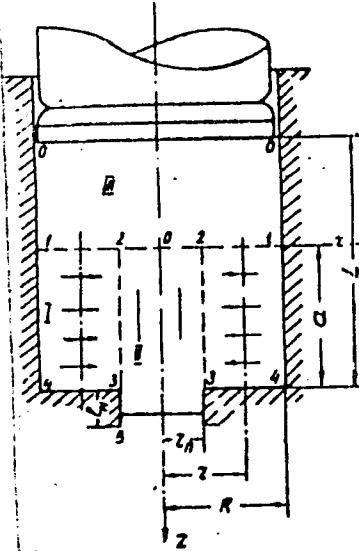
Card 3/4

On the calculation of force in...

Figure 7. Graph of function $\frac{p}{2\tau_s} = f\left(\lambda; \frac{L}{D}\right)$ for K = 1.4

(K is $\frac{\tau'_s}{\tau_s}$; τ_s is friction stress; τ'_s is the shear yield point)

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27057
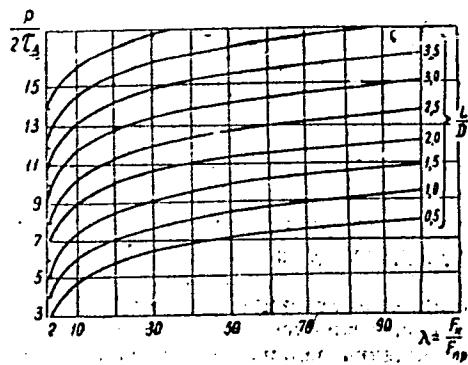
S/148/61/000/002/004/011
A161/A133

L.1310

AUTHORS: Tarnovskiy, I. Ya., Ganago, O. A. Vaysburd, R. A.

TITLE: Calculating the forces in drop and forging

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 2
            1961, 51 - 61

TEXT: The rated pressing stress of presses has to be selected for the ex-
pected maximum pressure required, i.e., finish forging when the surplus metal of
the blank is forced out into the flash. The high number of existing theoretical
and empirical formulae show that the problem is both important and difficult to
solve. Usually the zone of plastic deformation at the flash space is determined
experimentally and the data are used for calculations. The authors consider this
practice wrong since the results are correct for the definite experiment conditions
only, and use a different approach. The article presents a mathematical analysis
in which the spreading of the plastic deformation zone at the flash space is de-
termined theoretically for the minimum (instead of the maximum) full deformation
energy. This principle itself had been treated in three previous works [Ref. 8:
I. Ya. Tarnovskiy, A. A. Pozdeyev, V. B. Lyashkov. Deformatsiya metalla pro pro-

Card 1/4

27037

S/148/61/000/002/004/011

Calculating the forces in drop and forging

katke (Metal deformation in rolling), Metallurgizdat, 1956; Ref. 9: I. Ya. Tarnovskiy, O. A. Ganago, R. A. Vaysburd. "Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, no. 1; Ref. 10: I. Ya. Tarnovskiy, A. A. Pozdeyev. "Nauchn. dokl. v. hhk. Metallurgiya", 1958, no. 1]. Numerous experiments had been conducted with coordinate networks traced in different portions of specimens and deformations studied with tool microscope, and the same means were used later for verifying the theoretical conclusions. A formula describing the real spread of the plastic deformation into the die cavity has been derived (see Figure 1, a):

$$h_n = h_3 + a_1 h_3 \left(1 - \frac{x^2}{B_n^2}\right), \tag{1}$$

where h - current ordinate (or height) of expanding seat of plastic deformation; a_1 - indeterminate (variable) parameter. The formula (1) determines only the shape of the boundary between the rigid (1) and the plastic (2) zone in the forgings, but the volume of the plastic deformation zone depends on the variable parameter (a_1). This parameter is determined by the following analysis. An electronic computer had been used for more accurate calculations. The Simpson rule and the Siebel formula (the latter for the determination of specific contact friction) are employed in the derivation of the final two simple formulas (12) and (13) for the

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Calculating the forces in drop and forging

case of flat and of axially symmetric forgings:

$$\frac{p}{1.15 \sigma_s} = 1 + 0.25 \frac{B}{H}, \qquad (12)$$

where $B = 2b$ is the width of the forging with the flash bridge; $H = 2h$ - the flash thickness:

$$\frac{p}{\sigma} = 1 + 0.17 \frac{D}{H}, \qquad (13)$$

where D is the forging diameter with the flash bridge. The formula (12) corresponds the formula obtained by Unksov [Ref. 12: Plasticheskaya deformatsiya pri kovke i shtampovke (Plastic Deformation in Forging and Stamping), Mashgiz, 1939] for the calculation of the stresses during upsetting between two parallel plates, and the formula is known as the Siebel formula derived for the case of upsetting of cylinders. This coincidence of the formulae leads to an important conclusion - that the value of the force required for finish forging depends not on the configuration of the forging in the vertical cross section, but on the shape and dimensions of the forging in the plane, the flash thickness, and the temperature and speed of

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S/148/61/000/002/004/011
A161/A133

Calculating the forces in drop and forging

stamping. Experiments conducted with lead forgings gave results confirming this conclusion. There are 5 figures, 3 tables and 13 Soviet-bloc references.

Figure 1:

a - flat problem;
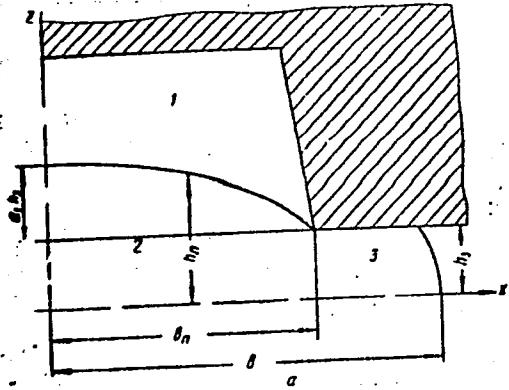
b - axially symmetric problem.
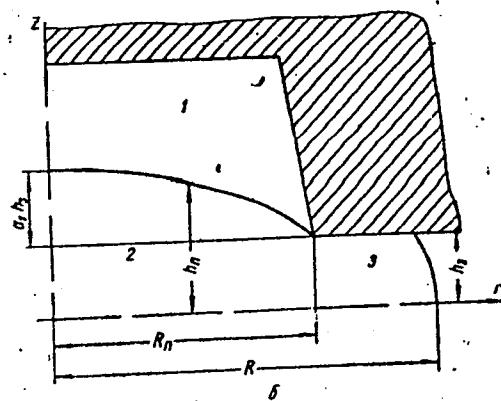
Card 4/4

TARNOVSKIY, Iosif Yakovlevich; POZDEYEV, Aleksandr Aleksandrovich;
GANAGO, Oleg Aleksandrovich; KOLMOGOROV, Vadim Leonidovich;
TRUBIN, Valeriy Nikolayevich; VAYSBURD, Rual'd Arkad'yevich;
TARNOVSKIY, Valeriy Iosifovich; GOROBINCHENKO, V.M., red.
izd-va; BEAKER, O.G., tekhn. red.

[Theory of working metals by pressure; variational methods
of calculating forces and deformations] Teoriia obrabotki
metallov davleniem; variatsionnye metody rascheta usilii i
deformatsii. [By] I.IA.Tarnovskii i dr. Moskva, Metallurg-
izdat, 1963. 672 p.   (MIRA 17:1)

VAYSBURG, R.S.

Control of ichthyophthiriasis on the Alma-Ata fishfarm. Trudy
Inst. zool. AN Kazakh. SSR 19:249 '63.   (MIRA 16:9)
                    (Alma-Ata--Protozoa, Pathogenic)
                    (Alma-Ata--Parasites--Fishes)

VAYSBURD, S.I., inzh. (g. Lugansk)

Experimental automatization of the exchange of mine cars on
the surface of No.1 "XIX Parts"ezd" Mine of the Leninugol'
Trust.. Ugol' 35 no.1:16-18 Ja '60.   (MIRA 13:5)
          (Automatic control)
          (Lugansk Province--Mine railroads--Cars)

VAYSBURD, S.Ye.; KHEYFETS, V.L.

    Electrochemical study of the interaction between metallic
iron and slag (displacement of nickel from slags by the iron).
Izv.vys.ucheb.zav.; tsvet.met. 2 no.6:76-84 '59.
                                (MIRA 13:4)

1. Institut "Gipronikel'"

    (Electrochemistry) (Slag--Analysis) (Ion exchange)

VAYSBURD, S. Ye. Cand Chem Sci -- "Study of the thermodynamic properties of iron-containing silicate fusions by the electrochemical method." Len, 1959. 11 pp (Min of Higher and Secondary Specialized Education RSFSR. Len Order of Labor Red Banner Technological Inst im Lensovet), 200 copies (KL, 49-59, 138)

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VAYSBURD S CY

DUUDAADVISURY-S. A.

5(4)   PHASE I BOOK EXPLOITATION   SOV/2216

Soveshchaniye po elektrokhimii, 4th, Moscow, 1956.

Trudy...; [sbornik] (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed.
Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.N. Frumkin (Resp. Ed.) Academician, O.A. Yesin, Professor; S.I. Zhdanov (Resp. Secretary), B.N. Kabanov, Professor; S.I. Zhdanov (Resp. Secretary), B.N. Kabanov, Professor; Ya. M. Kolotyrkin, Doctor of Chemical Sciences; V.V. ...osev, P.D. Lukovtsev, Professor; Z.A. Solov'yeva; V.V. Stender, Professor; and O.M. Florianovich; Ed. of Publishing House; N.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Smirnov, M.V., and L.D. Yushina (Uralskiy filial AN SSSR-Ural Branch, Academy of Sciences, USSR). Cathodic Processes During the Precipitation of Thorium From Fused Electrolytes   348

Gul'din, I.T., and A.V. Buzhinskaya (Gosudarstvennyy nauchno-issledovatel'skiy Institut tsvetnykh metallov—State Scientific Research Institute of Nonferrous Metals). Mechanism of the Reduction of Galena From Suspensions in Fused Mixture of Magnesium and Sodium Chlorides at a Liquid-Lead Cathode   352

Panchenko, I.D. (Institut obshchey i neorganicheskoy khimii AN USSR-Institute of General and Inorganic Chemistry, Academy of Sciences, UkrSSR). Equation for a Polarographic Wave at Solid Electrodes in Fused Salts   355

Chovnyk, N.G. (Aviatsionnyy institut Kuybyshev-Aviation Institute, Kuybyshev). Some Problems of the Polarography of Fused Electrolytes   358

Vaysburd, S. Ye., and V.L. Kheyfets (Gosudarstvennyy institut po proyektirovaniyu predpriyatiy nikelevoy promyshlennosti-State Institute for the Planning of Enterprises of the Nickel Industry). Decomposition Voltage and Properties of Slags Used in Nonferrous Metallurgy   362

Discussion (V.P. Mashovets and contributing authors)   365

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PART V.   THE ELECTRODEPOSITION OF METALS   369

Kaishev, R. ...
(Physical Institute of the Bulgarian Academy of Sciences).
Spiral Growth and Overvoltage During the Electrocrystallization of Silver   371

Bockris, J.O'M., U. Mil, and B.E. Conway (U.S.A.). Determination of Faraday Impedance at Solid Electrodes and Phases Which Determine the Electrodeposition of Copper   380

Vagramyan, A.T. Nonhomogeneity of an Electrode Surface and the Mechanism of the Electrodeposition of Metals   395

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Polukarov, Yu. M., and K.M. Gorbunova (Institute of Physical Chemistry, Academy of Sciences, USSR). Some Theoretical Problems on the Electrocrystallization of Alloys

5.4130,5.1310,5.4600   75655
                                              SOV/80-32-10-4/51

AUTHORS: Vaysburd, S. Ye., Kheyfets, V. L.

TITLE: Concerning the State of Cuprous Sulfide in Iron-Bearing
                Molten Silicates

ABSTRACT: This is a study of the above silicates with addition
                of iron and copper sulfides. Samples: silicate melts
                of the $CaO-FeO-SiO_2$ type containing some MgO and Fe_2O_3,
                and a multicomponent slag of shaft furnace smelting.
                Test conditions: MgO crucibles; nitrogen atmosphere;
                $1,250 \pm 5°$. After measurement of the decomposition vol-
                tage E, quenching, and removal of sulfide and metal in-
                clusions, the silicates were analyzed chemically; the
                slag ionic composition and decomposition voltage E^0
                were calculated, taking into account the trivalent iron
                content. The presence of S introduced as FeS did not
Card 1/3   affect the anode potential since anode polarization

Concerning the State of Cuprous Sulfide in Iron-   75655
Bearing Molten Silicates   SOV/80-32-10-4/51

was insignificant, and highly concentrated iron was
first to be oxidized at the anode. The presence of
Cu_2O caused a sharp drop in decomposition voltage;
this indicates that, owing to dissociation to Cu^+ ions,
metal (alloy) cathode plating started at a cathode po-
tential higher with respect to a comparable slag con-
taining no Cu. On the other hand, since addition of
CuS_2 did not affect the cathode potential, CuS_2 remained
undissociated. FeS and CuS_2 concentrations on par with
the S and Cu content of industrial slags have no effect
on the decomposition voltage and hence on iron activity
(γ); knowledge of slag component-oxide content will, re-
gardless of sulfur content, suffice for the industrial
application of E and γ. There is 1 table; 1 figure;
and 8 references, 6 Soviet, 1 British, 1 German. The
British reference is: Bockris, J., Kitchener, G., Igna-
towicz, S., Fomlinson, J., Faraday Soc, 48, 75 (1952).

Card 2/3

Concerning the State of Cuprous Sulfide in Iron-   75655
Bearing Molten Silicates   SOV/80-32-10-4/51

ASSOCIATION: Planning and Scientific Research Institute of the State
               Institute for the Design and Planning of the Nickel In-
               dustry (Proyektnyy i nauchno-issledovatel'skiy institut
               gipronikel')   .

SUBMITTED: September 30, 1958

Card 3/3

S/080/63/036/001/023/026
D204/D307

AUTHORS: Remen', T.F., Kheyfets, V.L., and Vaysburd,S.Ye.

TITLE: The activity of sulfur in binary systems Fe-S,
                Co-S, and Ni-S

PERIODICAL: Zhurnal prikladnoy khimii, v. 36, no. 1, 1963,
                218 - 220

TEXT: The present work is a continuation of an earlier
study (Izv. vuzov, Tsvet. Metallurg., $\underline{6}$, 58 (1961)). The activities,
a_S, were determined from emf measurements, at 1250ºC, with a solid
metallic reference electrode, and the calculations were performed
by graphical integration of the Gibbs-Duhem equation in the form
suggested by Vagner (Termodinamika splavov [Thermodynamics of
alloys] , Metallurgizdat (1957))

$$\lg \gamma_S = \int_0^{N_{Me}} \frac{\lg \gamma_{Me}}{(1 - N_{Me})^2} dN_{Me} - \frac{N_{Me}}{1 - N_{Me}} \lg \gamma_{Me} \cdot \qquad (1)$$

Card 1/2

The activity of sulfur ...

S/080/63/036/001/023/026
D204/D307

taking a_S as unity for compositions to FeS, CoS, and Ni_3S_2. The results are presented in graphical form and show (a) strong negative deviations of S from ideality in all 3 cases, indicating strong bonding of S to Fe, Co and Ni, particularly for low atom % S, (b) Co-S bond is stronger than Fe-S bond, (c) good agreement with available literature data, and (d) dependability of the method used. There are 3 figures.

SUBMITTED: March 26, 1962

Card 2/2

REMEN', T.F.; KHEYFETS, V.L.; VAYSBURD, S.Ye.

Activity of metals in binary systems Fe - S, Co - S and Ni - S.
Izv. vys. ucheb. zav.; tsvet. met. 4 no.6:58-64 '61.
(MIRA 14:12)
1. Proyektnyy i nauchno-issledovatel'skiy institut "Gipronikel'".
(Sulfides—Metallurgy)
(Activity coefficients)

VAYSBURD, S.Ye., inzh.; KHEYFETS, V.L., kand.tekhn.nauk

Ionic model of a molten iron-bearing silicate and the activity
coefficient of iron in liquid slags. Izv.vys.ucheb.zav.; chern.
met. 2 no.5:11-18 My '59.   (MIRA 12:9)

1. Leningradskiy institut Gipronikel'. Rekomendovano kafedroy
elektropirometallurgii tsvetnykh metallov Leningradskogo poli-
tekhnicheskogo instituta.
        (Activity coefficients) (Slag)

ABUSHKEVICH, P.V.; VAYSBRUD, V.I.; KULIKOV, I.A.; LEV, M.I.;
    MAZURIN, N.D.; ROZINA-ITSKINA, TS.S.; TIKHONOV, G.I.

Epidemic and etiological nature of the virus influenza epidemic
in Khabarovsk in January-March 1959. Vop. virus. 5 no. 6:750
N-D '60.   (MIRA 14:4)
                (KHABAROVSK--INFLUENZA)

VAYSBURD, S.Ye.; VERNER, B.F.; KHEYFETS, V.L.

Activity of iron in Fe - Ni - S melts. Izv.vys.ucheb.zav.;
tsvet.met. 5 no.1:59-67 '62.   (MIRA 15:2)

1. Proyektnyy i nauchno-issledovatel'skiy institut "Gipronikel'".
   (Activity coefficients) (Iron sulfides) (Nickel sulfides)

REMEN', T.F.; KHEYFETS, V.L.; VAYSBURD, S.Ye.

Activity of sulfur in binary systems Fe - S, Co - S, Ni - S.
Zhur.prikl.khim. 36 no.1:218-220 Ja '63.   (MIRA 16:5)
                (Alloys) (Sulfur) (Electromotive force)

REMEN', T.F.; KHEYFETS, V.L.; VAYSBURD, S.Ye.

Iron activity in the system Cu - Fe - S. Izv. vys. ucheb.
zav.; tsvet. met. 5 no.6:57-61 '62.   (MIRA 16:6)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
nikelevoy promyshlennosti.
                (Systems(Chemistry))
                (Iron—Testing)
                (Activity coefficients)

24.6900

AUTHORS: Vaysenberg, A. O., Smirnitskiy, A. A.

TITLE: Asymmetry in the $\pi^+ - \mu^+ - e^+$ Decay in a Magnetic Field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
               Vol. 39, No. 2 (8), pp. 242-248

TEXT: It was the purpose of the present paper to investigate the
dependence of the asymmetry coefficient of the above reaction in
photoemulsions of the type НИКФИ-Р (NIKFI-R) on the magnetic field
strength in the range of 0 - 20 koe. The asymmetry coefficients were
measured at H = 0, 54, 110, 206, 420, 680, 1300, 1900, 2500, 3500, 5100,
6300, 14,000 and 17,000 oe, where H was parallel to the emulsion plane.
For shielding the field in the synchrocyclotron room, a double soft-iron
shield was used. The magnetic fields in which asymmetry was measured,
were generated by an electromagnetic. The authors thank I. I. Gurevich
and B. A. Nikol'skiy for placing a special electromagnet at their
disposal for the purpose of producing the 14- and 17-koe fields. The

Card 1/3

Asymmetry in the π^+ - μ^+ - e^+ Decay
in a Magnetic Field

83167
S/056/60/039/002/004/044
B006/B056

emulsion chambers consisted of 50 to 100 400-μ NIKFI-R layers, which had been bombarded with π^+-mesons on the synchrocyclotron of the OIYaI (Joint Institute of Nuclear Research). The asymmetry coefficient a is calculated from the relation $a = K(N_v - N_n)/(N_v + N_n)$, where N_v denotes the number of decays for which the projection of γ and β lay in one quadrant of the ocular scale (the first or third), N_n denotes the number of decays where these projections lay in the opposite quadrant. γ and β are the angles formed by $\vec{H}$ and the emission directions of μ^+ and e^+, respectively. In first approximation, which is accurate up to some %, K = 1.57. The results of these investigations are shown in Tables and in a diagram, and are the following: 1. a grows from -0.09 ± 0.01 (H=0) to -0.29 ± 0.01 (H = 17 - 27 koe). 2. In the range of 0-17 koe, the course of the a(H) curve is such that a is not proportional to $x^2/(1+x^2)$ (see Fig.) as would be expected to follow from the polarization formula for the Paschen-Back effect in muonium; ($x = H/H_0$, H_0 = 1580 oe, - the mean field produced by the magnetic moment of the μ^+-meson on the electron orbit in muonium). 3. The observed effect may, however, be explained by the

Card 2/3

83167

Asymmetry in the π+ - μ+ - e+ Decay
in a Magnetic Field

S/056/60/039/002/004/044
B006/B056

Paschen-Back effect in muonium if it is assumed that an additional
depolarization due to charge exchange occurs at the end of the μ+-path or
to exchange collisions after its stoppage. 4. The maximum a-value of
-0.29±0.01 is lower by 10% than the value a = -1/3, which follows from the
theory of weak V-A interaction. This deviation cannot be explained by
errors in measurement; it is due either to an additional depolarization
of about 10% in the emulsion, or the μ-e decay asymmetry cannot be
satisfactorily described by weak V-A interaction. 5. In this as well as
in a previous paper (Ref. 2), about 340,000 π+-μ-e decay events were
evaluated. A search was made especially for μ+→3e or μ→e+⊽+⊽+γ decays,
but not a single case could be found. The authors thank A. I. Aliknanov
for his interest, D. M. Samoylovich, Ya. B. Zel'dovich, A. M. Perelomov,
and L. P. Panov for their assistance. There are 1 figure, 3 tables, and
14 references: 4 Soviet and 10 US.

SUBMITTED: February 23, 1960

Card 3/3

PHASE I BOOK EXPLOITATION   SOV/4535

Vsesoyuznyy sovet nauchno-tekhnicheskikh obshchestv

Mezhkristallitnaya korroziya i korroziya metallov v napryazhennom sostoyanii
(Intercrystalline and Stress Corrosion of Metals) Moscow, Mashgiz, 1960.
358 p. 5,000 copies printed.

Ed.: I.A. Levin, Candidate of Technical Sciences; Ed. of Publishing House:
V.I. Leznichenko, Engineer; Tech. Ed.: V.D. El'kind, Managing Ed. for
Literature on Metalworking and Instrument Making (Mashgiz): V.V. for
Engineer; Editorial Board: I.A. Levin, Candidate of Technical Sciences
(Chairman), V.P. Batrakov, Candidate of Technical Sciences, V.M. Kuharlitskly,
Candidate of Technical Sciences, and A.V. Turkovkaya, Candidate of Technical
Sciences.

PURPOSE: This collection of articles is intended for technical personnel concerned
with problems of corrosion of metals.

COVERAGE: The collection contains discussions of intercrystalline corrosion of
stainless steels and stress corrosion of carbon steels, low-alloy and stainless
steels, and light-weight and nonferrous alloys. The tendency of steels of
various composition and cycles to corrode under certain conditions is discussed
and the nature of corrosion and corrosion cracking is analyzed. No personalities
are mentioned. Most of the articles are accompanied by bibliographic references,
the majority of which are Soviet.

Ourisinl, L.A., Candidate of Technical Sciences, and F.L. Dunoshkevukhya,
Engineer. Rapid Method of Determining the Tendency of Stainless Steels
Toward Intercrystalline Corrosion   162

II. STRESS CORROSION OF STAINLESS STEELS

Ryabchenkov, A.V., Doctor of Chemical Sciences, Professor, and
T.M. Mikforov, Senior Scientific Worker, Candidate of Technical
Sciences. The Role of Electrochemical Factors in the Process of
Corrosion Cracking of Austenitic Steels   175

Loem, D.V., Candidate of Technical Sciences, and :.M. Mikaylov,
Senior Scientific Worker. Effect of Various Environments on the Stress
Corrosion of Austenitic Steels at Supercritical Parameters   198

Shavranskaya, F.L., Candidate of Technical Sciences (Deceased). Stress
Corrosion of Metals in Sulfur-Removing Equipment
Sciences)   210

Tumakshina, M.G., I.A. Krynin, Candidates of Technical Sciences, and
G.I. Rameskina. Resistance of Hydrostructure Blade Steels to Cavitation
Erosion Depending Upon the Uniformity of Structure and Mechanical Properties 217

IV. STRESS CORROSION OF CARBON STEELS AND LOW-ALLOY STEELS

Akhadzin, P.P., Candidate of Technical Sciences. Corrosion Cracking of High-
Strength Steels   251

Kritsal, M.M., Corrosion Cracking of Welding Equipment Made of Carbon
Steel in Sodium Nitrate Solutions   251

Titov, V.A., Candidate of Technical Sciences. The Effect of Hydrogen
Diffusion of Steel on Its Resource   257

A.O. Vspekova, R.S. Aavarina and V.I. Lazarian, Engineers, participated
in this study prepared at the Moskovakiy Institut stali im. I.V. Stalina
(Moscow Steel Institute imeni I.V. Stalin)   269

Fedotov, O.G., Engineer, S.I. Volifson, Ph. I. Chetkin, Candidates
of Technical Sciences, and L.D. Zakharchkin, Engineer. Cracking of
Safety Valve Springs in Contact with Unstabilized Gasolines and
Liquefied Gases   152

Card 2/9

VAYSBURG, L.,konstruktor; VYSHLOV, V.,konstruktor

PTB-2 loader. Mor.flot 18 no.3:22-23 Mr '58.   (MIRA 11:4)

1. TSentral'noye proyektno-konstruktorskoye byuro No.1
Ministerstva morskogo flota.
          (Loading and unloading)

VAYSBURG, S.I., podpolkovnik meditsinskoy sluzhby

Radiography of the bones and joints with the patient in a vertical
position. Voen.-med. zhur. no.9:72 S '55.   (MLRA 9:9)
        (BONE--RADIOGRAPHY)
        (JOINTS--RADIOGRAPHY)

ZHID..., S. I.

ZHID..., S. I.: "Investigation of ... microscopic X-ray ...." Kazakh
State Medical Institut im at ... V. M. Molotov. Alma-Ata, 1956. (Dis-
sertation for the Degree of Candidate in Medical Sciences)

So: Knizhnaya Letopis' No 46, 1956. Moscow

VAYSBURG, S.I.,podpolkovnik med.sluzhby

X-ray observations of gastrointestinal motor functions following
appendectomy. Voen.-med.zhur. no.11:73-74 N '57.   (MIRA 11:4)
        (APPENDECTOMY)   (ALIMENTARY CANAL--RADIOGRAPHY)

VAYSBURG, S.I., podpolkovnik meditsinskoy sluzhby

Use of stereoscopic X ray.   Voen.-med. zhur. no.5:33-36 My '60.

(MIRA 13:7)

(X RAYS)

KRITS, I.G.; VAYSBURG, V.A.

Manufacturing fittings by die stamping. Biul.tekh.-ekon.inform.Gos.
nauch.-issl.inst.nauch.i tekh.inform.18 no.9:17-18 S '65.

(MIRA 18:10)

VAYSBUT, A. M

Effect of carbon on...

Gol'dfel'd, A. M. Vaysbut, and L. A. Plastinina. Antonio.

Vil. i Traktor. Prom. 1957, No. 3, 27-9. When used oil containing 1.37% mech. impurities is passed through a magnetic filter, not only Fe but also most of the other contaminents are...

SOV/113-59-2-6/20

AUTHOR: Gol'dfel'd, S.M., Vaysbut, A.M. and Plastinina, L.A.

TITLE: Various Filtering Systems of Oil-Cleaning in Engines
            (Ochistka masla v dvigatelyakh pri razlichnykh sistemakh
            filtratsii)

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 2, pp 11-13 (USSR)

ABSTRACT: The article deals with various oil-filtering systems in
            internal-combustion engines. These systems reduce the wear
            on piston rings, cylinders, and on lead-bronze bushings in
            connecting rods. The tests were conducted by the Odessa
            Electrotechnical Institute of Communications, with the "D-
            54" four-cycle engines and with the "YAMZ-204" and "YAMZ-
            206" two-cycle engines. The results reveal that deteriora-
            tion of moving parts depends largely on the degree of acid
            and water in the oil, and on the size of particles suspen-
            ded in it. As countermeasures, various filtering systems
            were tested including one with a magnetic separator of tiny
            particles. The best results were obtained with systems
            using reactive centrifuges and ASFO-type filters. There
Card 1/2   are 4 tables, 1 graph, and 3 Soviet references.

Various Filtering Systems of Oil-Cleaning in Engines   SOV/113-59-2-6/20

ASSOCIATION: Odesskiy elektrotekhnicheskiy institut svyazi (Odessa Elect-
               rotechnical Institute of Communications).

Card 2/2

GOL'DFEL'D, S.M.; VAYSBUT, A.M.

Use of an auxiliary magnetic separator for improving centrifugal oil cleaning. Avt. prom. 27 no. 4:12-14 Ap '61.   (MIRA 14:4)

1. Odesskiy elektrotekhnicheskiy institut svyazi.
        (Automobiles—Engines—Oil filters)

VAYSELBERG, K. B.

Destructive hydrogenation of tetralin. I. I. Kru and
K. B. Vaxselberg. Russ. 51,615, Aug. 31, 1947. Tetralin
is hydrogenated in the presence of activated carbon
impregnated with H_3PO_4.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VAYSEL'BERG, K.B.

Hydrogenation of the components of the Aleksandrii-skii brown coal. K. B. Vaisel'berg. *Khim. Tverdogo Topliva* **8**, 232–46(1937).—From the coal were sepd. bitumen 17.53, humic acids 64.09, and residual coal 17.70% (on dry coal). All hydrogenation expts. were carried out in the "V2A" rotating steel autoclave of 9 l. capacity at cold H pressure of 100 atm. The heating to 350° was accomplished in 30 min.; then the temp. was controlled that 450° was reached in hr. and this temp. was kept for 1 hr. more. Bitumen "A" (montan wax) was sepd. from the coal by extn in the Soxhlet app. with an alc.-C$_6$H$_6$ (1:1) mixt. and had an acid no. 34.7, ester no. 103.5, sapon. no. 138.2, I no. 51.7, ash 1.20, tar 32.5, and was 67.5%. It was hydrogenated in the presence of the Fe$_2$O$_3$ and MoS$_2$ catalysts and without them, yielding (as av.) oil 72, gas 20-22, and unchanged residue 1-2%. The hydrogenation product was a mixt. of paraffin and cyclic hydrocarbons. The presence of phenols in the gasoline fraction (below 175°) was not observed, but was observed in the fraction b. 175-325°. Humic acids were sepd. from the residue of the bitumen extn. by treatment with warm 5% Na$_2$CO$_3$ and ppts. of the humic acids with 10% HCl. The humic acids contained C 60.71, H 4.77, S 8.16, O + N 29.36, and ash 1.43% (on org. substances). The hydrogenation, carried out as before without catalyst and in the presence of Fe$_2$O$_3$ and MoS$_2$ catalysts, yielded oil 8.7, 18.5 and 45%, gas 32, 28.1 and 28.1% and unchanged residue 51.7, 40.9 and 14.2%, resp. The liquid fractions of the hydrogenation product contained phenols and had the characteristics of an aromatic hydrocarbon. Semi-coke (contg. 16% of ash, and C 65.22 and H 3.45%) of the above coal hydrogenated without and with Fe$_2$O$_3$ and MoS$_2$ catalysts yielded oil 25.9, 31.6 and 33.7%, gas and loss 13.9, 17.4 and 17.4%, unchanged residue 52.4, 40.6 and 37.0%, resp. The hydrogenation product contained phenols and large amts. of aromatic and unsatd. hydrocarbons. The MoS$_2$ catalyst promoted the hydrogenation leading to the formation of naphthenes from the aromatic hydrocarbons. The Aleksandriiskii coal (contg. 10.8% of ash) was hydrogenated itself without and with the above catalyst, yielding oil 35.9, 51.2 and 56.7%; gas and loss 28.5, 29.3 and 29.6%; and unchanged residue 28.7, 6.9 and 3.8 resp. The ash-free coal on hydrogenation as above yielded oil 26.1, 42.2 and 44.2%; gas and loss 18.5, about 20, and 26.4%; and unchanged residue 40.8, 22.4 and 17.4%, resp. A catalytic effect of ash was observed; SiO$_2$ promoted a decrease of the amt of coke and increase of oil, and CaO promoted a decrease of the residue. No harmful effect of CaO was observed. Fourteen references.

A. A. Podsorov

VAYSEL'D, O. I.

Cysts

Case of strangulating obstruction caused by appendiceal cyst. Vest. khir. 72 no.7 1952.

VAYSELEVA, S. M. and Patukina, R. F.

Vayseleva, S. M. "Microflora of various forms and zones in the inflammations of the plup,"
Trudy Kazansk. gos. stomatol. in-ta, Issue 2, 1949, p.209-217, - Bibliog: 14 items.

SO: U-5240, 17 Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

ZIV, Ya.F.; VAYSENBERG, A.I.; STEPANOV, I.S., nauchnyy red.; YERSHOV, A.D.,
glavnyy red.; GINZBURG, A.I., red.; ZVEREV, L.V., red.; KREYTER, V.M.,
red.; MOKROUSOV, V.A., red.; SOLOV'YEV, D.V., red.; KHRUSHCHOV, H.A.,
red.; CHERNOSVITOV, Yu.L., red.; SHMAHENKOV, I.V., red.; NEKRASOVA,
N.B., red.izd-va; IVANOVA, A.G., tekhn.red.

[Industry's requirements as to the quality of mineral raw material; hand-
book for geologists] Trebovaniia promyshlennosti k kachestvu mineral'nogo
syr'ia; spravochnik dlia geologov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry
po geol. i okhrane nedr. No.49. [Niobium and tantalum] Niobii i tantal.
Izd.2., perer. 1959. 49 p.   (MIRA 12:12)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya.   (Niobium)   (Tantalum)

SAMSONOV, Grigoriy Valentinovich; KONSTANTINOV, Vladimir Ivanovich.
    Prinimali uchastiye: ZIV, Ye.F.; KOSOLAPOVA, T.Ya. NIKOLAYEV,
    N.S., doktor khim.nauk, setsenzent; VAYSENBERG, A.I., kand.tekhn.
    nauk, retsenzent, red.; KOLCHIN, O.P., kand.tekhn.nauk, retsenzent,
    red.; ARKHANGEL'SKAYA, M.S., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.
    red.

[Tantalum and niobium] Tantal i niobii. Moskva, Gos.nauchno-tekhn.
izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 264 p.
                                                    (MIRA 12:11)

        (Tantalum)   (Niobium)

VAYSENBERG, A. O.

Adsorption of cosmic rays in a strong magnetic field at
3250 meters above sea level. A. I. Alikhanyan, A. A. Alikhanov,
S. Ya. Nikitin, and A. Vaysenberg.   J. Phys. (U.S.S.R.) 10,
294-5 (1946); cf. preceding abstr.- Analysis of the soft component
of cosmic rays by means of an intense magnetic field shows that
the component having a range of 4-4.5 cm. in Pb is not deflected
by the field, and confirms that the particles generated in Pb
are protons.   B. A.

VAYSENBERG, A. O.

Speciality - Nuclear Physics

Scattering of relativistic electrons at a large angle. A. I. Alikhanyan, A. I. Alikhanov, and A. Vaysenberg. J. Exptl. Theoret. Phys. (U.S.S.R.) 16, 369-78 (1946); J. Phys. (U.S.S.R.) 9,280-8 (1945).- Fast electrons from 100-200- millicurie radon sources (Ra C electrons, upper limit 3175 kv.) were monochro- matized by a magnetic spectrograph and beams of energies from 600 to 2000kv. were scattered on thin films placed at 45^0 to the beam. Scattering was observed with Geiger-Muller counters at an angle between 82^0 and 97^0; γ -radiation from the source was eliminated. The scattering metal films were obtained by thermal vacuum evapn. and deposited on 2-4- celluloid foils, which contributed not over 10% to the total scattering. By the criterion of linearity of scattering intensity and film thickness, preliminary expts. on Al, Ni, Ag, and Au layers showed that singleness of scattering is approximated the better the faster the electrons, example Al 3.0 and 6.0 mg./sq. cm., energy of electrons 850, 1000, 1200, 1330 kv., ratios of intensities scattered by the thicker and by the thinner film = 2.71, 2.55, 2.19, 2.06, resp. According to Wentzel's (C.A. 17, 923) criterion for single scattering at an angle φ, namely not more than two deflections on the av. by an angle $\leqslant \varphi/4$, scattering of 1000-kv. electrons in Al 100 mg./sq. cm. thick should still be single, whereas exptl. results show that multiple scattering occurs even in 6 mg./sq. cm. Al; consequently, Wentzel's criterion is not applicable. On the other hand, the exptl. ratios obtained check satisfactorily with Artsimovich's formula $N = x + [(1.51 \times 10^{-2} x^2)/E^2]$ where N = no. of electrons scattered by Al, E = energy of electrons in m.e.v., x= THICKNESS of film in Al, and bear out his basic representation of the possibility of

VAYSENBERG, A. O.   Page 2

deflections by large angles through repeated deflections by smaller angles.
Final detns. were made with x and E for which scattering is most nearly single,
example Al 1.55, 3.00, 6.00 mg./sq. cm., E = 600-1050, 800-1200, 1100-1600 kv., resp.
For celluloid (at. no. Z = 7.1), Al, Cu, Ni, Ag, Au (Z = 79), probability of
scattering varies with E along the same curve, identical with Mott's theoretical
quantum-mechanical curve (cf. C.A. 23, 5406). Abs. values of the scattering on
light nuclei and their dependence on Z also check with Mott's theory (example, for
Al 3 mg./sq. cm., 1000 kv., within 10-15%), with the exception of Au, for which
the exptl. cross-section is about 2.5 times smaller than that predicted by the
theory; for Ag (Z = 47), owing to the absence of a numerical formula, agreement
cannot be asserted. The rapid increase of the effective cross section on
scattering by higher angles, claimed by Skobel'tsyn and Stepanova (C.A. 30, 3317[1];
32,2825[9]), is not confirmed.   N. Thon

VAYSENBERG, A. O.

"Spectrum of Mesotrons at the Altitude of 3,250 Meters Above Sea Level."
Sub 16 May 47, Order of the Labor Red Banner Inst of Physical Problems, Acad
Sci USSR

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SO: Sum No. 457, 18 Apr 55

VAYSENBERG, A. O.

USSR/Nuclear Physics – Cosmic Radiation   May 47
    Nuclear Physics – Particles

"The Existence of a Particle With Mass, Between the Masses of a Mesotron and Proton,"
A. I. Alikhan'yan, Corr Mem, Acad Sci USSR; A. I. Alikhanov, A. O. Vaysenberg, Academican,
9 pp

"Vest Akad Nauk SSSR" No 5

During period 1942-1946 authors were stationed on Mount Alagez, at an altitude of
3,270 m above sea level. Discerned cosmic particles very different from mestrérons
and protons. Series of tests revealed data which showed that these particles to be
ionized gases, two to three times greater than either protons or mesotrons. Mass of
this intermediate particle is 250 to 2,000 m_0. They are either positive or negative.
Authors express gratitude to V. M. Kharitonov, and M. I. Dayon.

PA 54T69

VAISENBERG, A. O.

Existence of particles with a mass intermediate between the
mesotron and proton. A. I. Alikhanyan, A. I. Alikhanov, and A.
Vaisenberg. Compt. rend. acad. sci. U.R.S.S. 55, 701-4 (1947) (in English);
J. Phys. (U.S.S.R.) 11, 97-9 (1947) (in English); cf. C.A. 40, 1086[9],
1387[6].- Cosmic rays were investigated at an altitude of 3250 m. above
sea level by using a system of counters which permitted simultaneous
measurement of both the curvature of a particle's path and its range.
Analysis of the results obtained shows that cosmic rays contain pos.
and neg. particles, called "barytrons," with a mass larger than that
of the meson. More than 4,000 barytrons have been observed, and the
no. of pos. barytrons appears to be 1.7 times larger than the no. of
neg. barytrons. At an altitude of 3250 m. above sea level, the no.
of barytrons amount to 10% of the no. of mesons.   Frank Gonet

Inst. for Physical Problems, AS USSR

VAYSENBERG, A. O.

Existence in cosmic rays of positive and negative particles with a mass greater than the mass of the meson. A. I. Alikhanyan, A. I. Alikhanov, and A. Vaysenberg. Zhur. Eksptl. Teoret. Fiz. 18, 301-36 (1948); cf. C.A. 43, 1642c, 4105af.- The hard and soft components of cosmic rays at 3250 m. above sea level were analyzed in a magnetic field by an elaborate counter arrangement, and curves are given for the no. of trajectories vs. displacement of particles. Pos. and neg. particles are indicated with masses greater than the mass of a meson, some with a mass greater than the proton mass.

F.H. Murray

VAYSENBERG, A.   PA 12/49T99

USSR/Nuclear Physics - Mesotrons   Apr 48
  . Nuclear Physics - Cloud Chambers

"Photographing the Disassociation of Heavy Meso-
trons in a Wilson Chamber," A. Vaysenberg, $4\frac{1}{2}$ pp

"Uspekhi Fiz Nauk" Vol XXXIV, No 4

After a paragraph on the work of Alikhan'yan,
Alikhanov and himself on Mt Alagez in 1946,
Vaysenberg devotes remainder of article to a
paper by Rochester and Butler. ("Nature," 1947).

12/49T99

VAYSENBERG, A.   PA 11/49T92

USSR/Nuclear Physics - Mesotrons   Jun 48
    Nuclear Physics - Cloud Chambers

"New Photographs of Heavy Mesotrons in a Wilson
Chamber," A. Vaysenberg, 1 p

"Uspekhi Fiz Nauk" Vol XXXV, No 2

Photographs appeared in first number of "Bulletin of
the American Physical Society" for 1948. Mesotron
mass calculated therefrom confirms 1946 observations
of Alikhanyan and other Soviet physicists.

11/49T92

VAYSENBERG, A.

CIA 6/49T91

USSR/Nuclear Physics - Cosmic Radiation   Jun 48
    Nuclear Physics - Particles

"Spectrum of Varitron Mass at 3,250 Meters Above Sea Level," A. Alikhanyan, Corr Mem, Acad Sci USSR; A. Vaysenberg, V. Kharitonov, M. Dayon, Inst of Phys Problems, Acad Sci USSR, and Phys Inst, Acad Sci Armenian SSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 9

Investigation on subject began in 1946 in Cosmic Ray Laboratory on Mount Alagez. Results published in various journals, including Vest Ak Nauk SSSR, No 5, 1947. (See Abstract 54T69). Authors discovered particles intermediate between mesotrons and

6/49T91

USSR/Nuclear Physics - Cosmic Radiation   Jun 48
    (Contd)

protons, calling them varitrons because they can be either positive or negative. Work was resumed in 1947. Describes improvements in apparatus. Tabulates masses and charges of particles observed. Graphs show spectra of particles which passed through 0.8-cm lead sheet but were absorbed in 1.05 cm lead sheet. Consist of a series of well defined maxima and minima. Authors consider this supports their previous hypotheses on ionization of particles. Submitted 29 Apr 48.

6/49T91

Mesons in the hard component of cosmic rays. A. I. Alikhanyan, A. Valsenberg, M. Dalon, V. Kharitonov, and A. Konstantinov. *Doklady Akad. Nauk S.S.S.R.* 61, 30-42(1948).—Pos. and neg. mesons occur in the hard component with masses as in the soft component (cf. C.A. 43, 1642e). The sharpness of the max. may be due to the fact that these mesons result from the decay of heavier ones. Cyrus Feldman
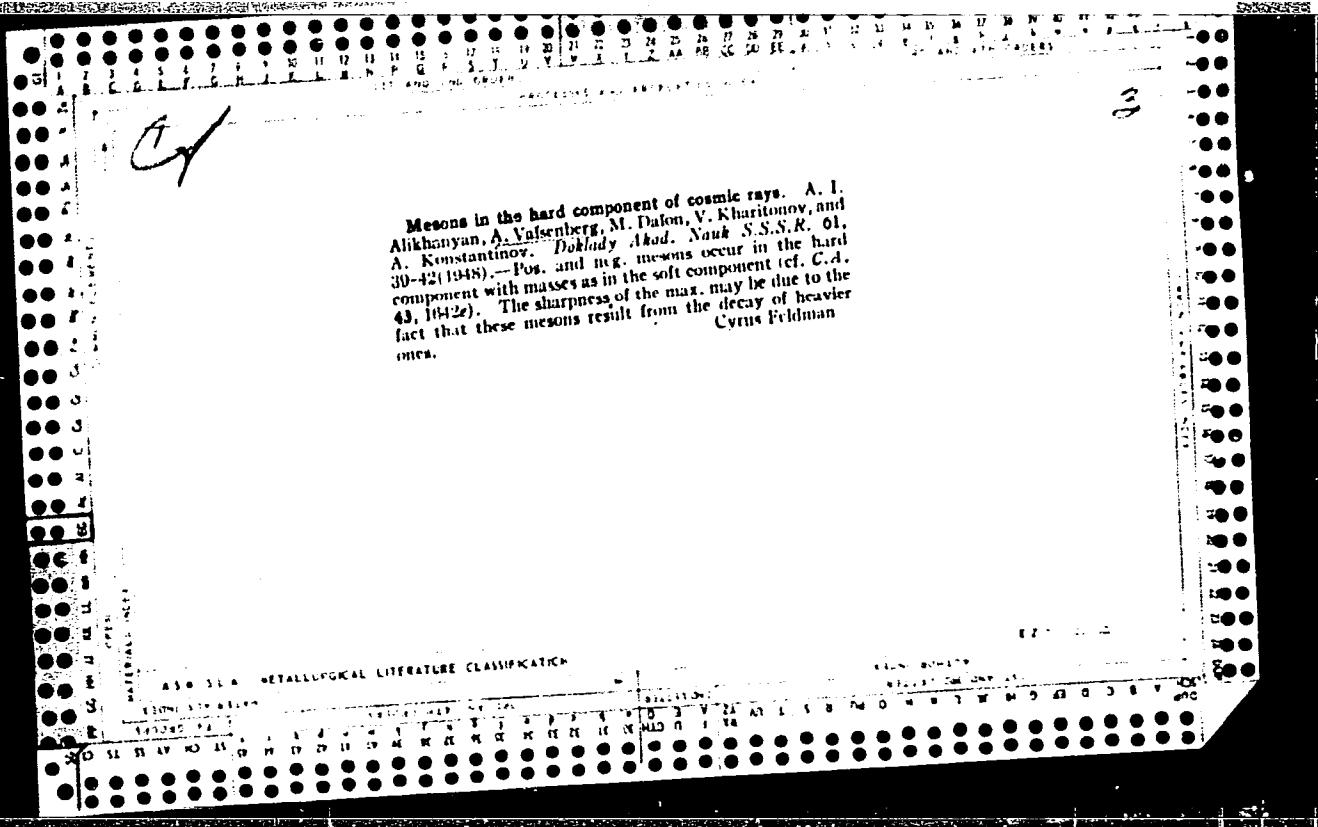
VAYSENBERG, A.

   USSR/Nuclear Physics - Cosmic Radiation   Jul 48
        Nuclear Physics - Particles, Charged - Trajectories

"Varitrons in the Hard Component of Cosmic Rays," A. Alikhanyan, Corr Mem, Acad
Sci USSR, A. Vaysenberg, M. Dayon, V. Kharitonov, A. Konstantinov, Inst of Phys
Problems, Acad Sci USSR, and Phys Inst, Acad Sci, Armenian SSR, 3½ pp

"Dok Ak Nauk SSSR" Vol LXI, No 1

Previous article in "Dok Ak Nauk SSSR" Vol LX, No 9 described spectra of varitron
masses obtained by examination of trajectories of particles absorbed in lead filters
installed above a series of counters. Present article discusses data obtained
on the spectrum of the hard component, Submitted 18 May 1948.

PA 8/49T105

VAYSENBERG, A.O.

24760.   VAYSENBERG, A.O.   O Raspade Yaritronov.   Zhurnal Iksperim. I Teoret. Fiziki, 1949, VYP. 8, S. 727-30.

SO: Letopis' No. 33, 1949

VAYSENBERG, A. O.   PA 61/49T79

USSR/Nuclear Physics - Varitrons   Aug 49
    Nuclear Physics - Mesons

"Disintegration of Varitrons," A. O. Vaysenberg,
Inst of Phys Problems, Acad Sci USSR, 3 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 8

Recorded the spectrum of varitron masses at 3,250
meters (Alagez Mountain) using a multivibrator
circuit through which the lifetime of varitrons
was determined in the order of microseconds.
Showed that, in this time interval, varitrons
with masses greater and less than 220 m_e
disintegrated as well as varitrons with mass
220 m_e. Submitted 9 Apr 49.

                                         61/49T79

C.A.

The remarks of V. A. Kravtsov on "The formula for the mass spectrometer of Alikhanov and Alikhanyan." A. I. Valsenberg, V. Morozov, and A. Khrimyan. Zhur. Eksptl. Teoret. Fiz. 20, 1055(1950); cf. preceding abstr.— The authors show that although the error pointed out by Kravtsov does exist, it exists only in an intermediate equation which was never used for purposes of calcn. They give the equation which was actually used for the calcn. of the impulse and show that it is correct.   I. Kovtar Leach

VAY SENBERG A.O.

ELMORE, William Cronk; VAYSENBERG, A.O. [translator]; TROITSKAYA, V.A.
[translator]; MICHULIN, V.V., redaktor.

[Electronics in nuclear physics] Elektronika v iadernoi fizike.
Moskva, Izd-vo inostrannoi lit-ry, 1951. 406 p. [Microfilm]

(MLRA 7:11)

(Electronic apparatus and appliances) (Electron-tube
circuits)

VAYSENBERG, A.

Cosmic Rays

Use of scintilator - calculators in studies of cosmic radiation. Usp.fiz.nauk.,
45, no. 4, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

VAYSENBERG, A.

Mesotrons

Multiple dispersion of π-mesons., Usp. fiz. nauk, 45, no. 4, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952.   UNCLASSIFIED.

VAYSENBERG, A. O., SELINOV, I. P.

MATTER

Elementary particles. Fiz. v shkole 12 no. 3 (1952)

VAISENBERG, A. O.

PA 249T84

USSR/Nuclear Physics - Neutrons   Sep 52

"Deflection of Neutrons in a Field of Gravitational Force," A. O. Vaysenberg, Cand Phys-Math Sci

Priroda, Vol 41, No 9, p 102

Analysis of the data of expts on the distribution of velocities of neutrons emitted in two beams from a neutron source leads to the conclusion that the acceleration of the gravitational force acting on the neutron beam and causing its displacement is equal to g= (935±70) cm/sec², which is in agreement, within the limits of exptl errors, with the usual value 980, true for macroscopic bodies. Review of the English-language article by A.McReinolds Phys Rev, 1951   249T84

VAYSENBERG, A.

Quantum Theory

Measuring the velocity of quanta in air.
Usp.fiz.nauk 46 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

VAYSENBERG, A. O.

Vaysenberg, A. O. -- "An Investigation of the Spectrum and Composition of Cosmic Radiation at 3,250 Meters Above Sea Level." Dr Phys-Math Sci, Moscow Mechanics Inst, Moscow 1953. (Referativnyy Zhurnal--Fizika, Jan 54)

SO: SUM 168, 22 July 1954

VAYSENBERG, A.O.

USSR.

The dependence of counter efficiency on overvoltage. A. O. Vaisenberg and V. G. Kirillov-Ugryumov. Zhur. Eksptl. i Teoret. Fis. 24, 124-5(1953).—The effect of overvoltage was compared for Geiger counters filled with A and He. The efficiency of the former was completely independent of overvoltage, but for the latter there was a strong dependence of efficiency on overvoltage.   J. R. Leach

VAYSENBERG, A-O.

USSR.

537.542

11155. Arrangement of delayed coincidences with a resolving period of 10^{-7} sec. A. O. VAISENBERG. Zh. eksper. teor. Fiz., 24, No. 5, 545-9 (1953) In Russian.

An electronic circuit for delayed coincidences, suitable for measuring periods in the range from 2×10^{-7} to 10^{-5} sec, is fully described and illustrated. It is one of the variants of the arrangement described by Zhdanov and Naumov [Abstr. 3299 (1949)], involving the use of the self-extinguishing counters as detectors, which generate the short-period voltage pulses when a meson or disintegration particle passes through them. It has been found that, in counters 60 cm long and 3 cm dia., filled with A (8 cm Hg) and methylal (1 cm Hg), a lag of $0.5-1$ μsec occurred once in 400, and a lag exceeding 1 μsec once in 5000 passages.   P. LACHMAN

VAYSENBERG, H·O·

USSR.

537.591.1

11175.   Determination of the mass of the charged cosmic-ray particles with a life period of 2 μsec. A. O. VAISENBERG, G. A. MARIKYAN AND V. M. KHARITONOV.   Zh. eksper. teor. Fiz., 24, No. 5, 550–61 (1953) In Russian.

See Abstr. 1032 (1950), 11155 (1954). The research was carried out to provide answers to the following questions: (1) Does the air stream of cosmic rays at an altitude of 3250 m contain, besides the μ-mesons, also other unstable particles with the same life period?   (2) What is the nature of the decay of particles to which a mass greater than that of the proton should be ascribed?   Masses of particles decaying within 2 μsec were determined by using an apparatus which is described and illustrated; all disintegrations observed can be explained by assuming the presence of the μ- and π-mesons. Besides, decays were observed, involving the incidence of the meson-generating protons on the absorbing substance.

F. LACHMAN

VAYSENBERG, A. C.

USSR/Nuclear Physics - Mesons, Slow

"Transient Effect of Slow Mesons," A. O. Vaysenberg

DAN SSSR, Vol 91, No 3, pp 471-474

Describes expts, instruments, and method for detecting transient effect of mesons orig-

inating in vicinity of recorder. Results are plotted in curve of amount of decays in

relation to thickness of graphite filter. Indebted to A. I. Alikhanyan, V. Smirnitskiy,

and L. Novikov. Presented by Acad A. I. Alikhanov 30 May 53.

262T65

VAYSENBERG, A. O.   1

Photographic abs   TRANSITION EFFECT FOR SLOW MESONS. A. O. Vaisen-
                          berg. Doklady Akad. Nauk S.S.S.R. 91, 483-5(1953) July 21.
P 4   1953   (in Russian)
Industrial & Scientific   If the formation of slow mesons by proton-neutron reaction
Application of Photography has significant intensity, a noticeable transition effect is
                          detectable by placing a slow-meson absorber over the de-
                          tector. The arrangement used to detect the disintegration
                          is described. Graphite was used as the meson generator.
                          The number of transitions reach a maximum with 19.2
                          g/cm² of absorber. (J.S.R.)

10-28-54

VAYSENBERG, A. O.

USSR/Nuclear Physics - Radioactivity

Card 1/1   : Pub. 124 - 8/29

Authors   : Alikhanyan, A. I., Memb. Corresp. of Acad. of Sc. USSR.; and Vaysenberg, A. O.

Title   : Artificial radioactivity

Periodical : Vest. AN SSSR 6, 51-61, June 1954

Abstract   : Speeches held in commemoration of the 20th anniversary of the discovery,
              by Irene and Frederic Julio-Curie, of artificial radioactivity are pre-
              sented. Various stages in the development of nuclear physics, beginning
              with the discovery by Marie Curie of two radioactive elements Po and Ra
              (1897-1898), the discovery of neutron radioactivity by Fermi and associ-
              ates and including developments up to 1953, were mentioned. The direct
              relation between artificial radioactivity and various cosmogonic problems
              is explained. The speakers also predicted that by 1970 the total amount
              of radioactive fission products obtained from reactors will reach 100
              tons per year which will correspond to a radioactive radiation energy
              of 12 million kw.

Institution : ...

Submitted   : ...

WAJSENBERG, A.O.

Category : POLAND/Nuclear Physics - Structure and Properties of Nuclei   C-4

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3176

Author   : Wajsenberg, A.O.
Title   : Investigation of Internal Structure of the Nucleus with the aid of
            Mesons and Electrons

Orig Pub : Chem. szkole, 1955, 1, No 5, 4-14

Abstract : See Ref. Zh. Fiz., 1955, 18528

Card   : 1/1

ALIKHANIAN,A.I.,; VAYSENBERG,A.O., kandidat fiziko-matematicheskikh nauk

Elementary particles. Tekh. mol. 23 no.5:10-14 My '55. (MIRA 8:6)

1. Chlen-korrespondent Akademii nauk SSSR (for Alikhanian).
   (Particles, Elementary) (Nuclear forces)

BAKLAYEV, Ya.P.; OVCHINNIKOV, L.N., prof., doktor geol.-min.nauk, otv.
  red.; VAYSBERG, S.I., red.; IZMODENOVA, L.A., tekhn.red.

[Geology and potential of the Tur'insk contact-metasomatic de-
posits of copper in the northern Urals] Geologicheskoe stronie i
perspektivy Tur'inskikh kontaktovo-metasomaticheskikh mestorozh-
denii medi na severnom Urale. Sverdlovsk, 1959. 141 p.
(Akademiia nauk SSSR. Ural'skii filial, Sverdlovsk. Gorno-
geologicheskii institut. Trudy, no.37)   (MIRA 13:2)
            (Tur'insk region--geology)

S/076/63/037/C02/006/018
B101/B186

AUTHORS: Vaysberg, S. E., Varshavskiy, Ya. M. (Moscow)

TITLE: Investigation of the two-temperature exchange of
                   deuterium in the system water -'hydrogen chloride

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 2, 1963, 307-309

TEXT: It was sought to determine efficiency of two-temperature columns,
which is important for the concentration of deuterium, and to compare it
with that of rectification. For this purpose, di-temperature isotopic
separation of hydrogen was effected in counter-current columns in the
system hydrochloric acid - gas-vapor mixture of hydrogen chloride and water.
The deuterium content of the water was 0.65 at%, that of the hydrochloric
acid 0.61 at%. Results: The two-component state of the phases may lead to
a shift in the enrichment peak to beyond the current ratio λ, equal to the
partition factor α of deuterium. Maximum enrichment in the given system
at column temperatures of t = 17°C and t' = 90°C corresponded to
λ = 2.7-2.9, whereas $\alpha_{17^{\circ}C}$ = 2.53. The ratio φ between the HET on

rectification of water and the HET on di-temperature isotopic exchange has
Card 1/2

Investigation of the two-temperature ...   S/076/63/037/002/006/018
                                               B101/B186

·been found equal to 0.4. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova
                      (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: August 17, 1961

Card 2/2

BICHKOVA, K.I. [Bychkova, K.I.], kand.med.nauk; VAYSBERG, S.Ya. [Vaisberh, S.IA.], kand.med.nauk

Functional changes under the influence of antiallergic actions in hemorrhagic syndromes in children. Ped., akush. i gin. 23 no.6: 31. '61.   (MIRA 15:4)

1. Kafedra pediatrii Donetskogo meditsinskogo instituta.
(HEMOPHILIA)

AUTHOR: Bazelyan, L. L.; Braude, S. Ya. (Corresponding member   AN
UkrSSR); Vaysberg, V. V.; Krymkin, V. V.; Men', A. V.; Sodin, L. G.

TITLE: Radio emission spectral density of some discrete sources at
frequencies of 20—40 Mc

TOPIC TAGS: radio astronomy, radio telescope, radio emission

ABSTRACT: Radiation densities of eight discrete sources of cosmic
radiation in the 20—40-Mc band were measured with a wide-band radio
telescope. The measurements were carried out from October 1963
through February 1964. The radio telescope consisted of two electri-
cally controlled multielement antenna arrays (each with 128 radiators)
spaced 470 m apart along an E-W line. The antennas formed the elements
of a T-shaped interferometer system. The width of the radiation pat-
tern of each antenna was 4.6° at 20 Mc and 2.3° at 40 Mc; the inter-
ference interval at these frequencies was 1.8° and 0.9°, respectively.
Phase-modulated radiometers (i-f bandwidths, 10—15 kc) were used for

Card 1/2